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Strategic questions of a modal and thematic nature:

Harmonization of vehicle regulations

Latest Developments in Vehicle Regulations

Note by the secretariat

Summary

The work in the World Forum for Harmonization of Vehicle Regulations (WP.29) continued to strengthen vehicle safety and environmental protection, resulting in numerous new and amended vehicle regulations and rules under the 1958, 1997 and the 1998 Agreements.

Important topics were the establishment of the Working Party on Autonomous/Automated Vehicles (GRVA), the implementation of automated/autonomous driving function requirements into the regulatory framework including related elements like cyber-security and data protection, the Database for the Exchange of Type Approval (DETA) at the United Nations Economic Commission for Europe (ECE), implementation of the 1998 Agreement and Periodic Technical Inspections (PTI) under the 1997 Agreement.

The Inland Transport Committee (ITC) **is invited** to:

- **Endorse** the activities listed in this document;
- **Endorse** the transformation of the Working Party on Brakes and Running Gear (GRRF) to the Working Party on Autonomous/Automated Vehicles (GRVA), implementing ITC 2018 Decision No. 19;
- **Endorse** amendments to the WP.29 Terms of References (ToR) and Rules of Procedures (RoP), reflecting the transformation of GRRF to GRVA and other consequent adaptations;
- **Reiterate** support for hosting DETA at ECE; and
- **Request** financing of DETA under the United Nations budget.

I. Reorganization

1. Following the decision of WP.29 in June 2018 to implement ITC Decision No.19 of 2018 and convert GRRF into GRVA, GRVA first met (25-28 September 2018). GRVA will retain GRRF activities related to autonomous, automated and connected vehicles and incorporate current activities, other than its coordination of the Informal Working Group on Intelligent Transport Systems/Autonomous Driving (IWG on ITS/AD). The process entailed a reallocation of certain former GRRF tasks to existing GRs (as listed in Annex 1 of WP.29-175-25), including all tyre-related activities to the Working Party on Noise (GRB). In this context, the change of the name to the Working Party on Noise and Tyres (GRBP) was confirmed by WP.29 at its 176th session in November 2018.

2. The activities of GRVA will include the development of a framework regulation on automated/autonomous vehicles. Some of the items that the group will address in the establishment of internationally harmonized regulations on automated driving technologies, that would enable drivers to benefit from a higher degree of automation of the driving task, and of enhanced safety and security, include:

(a) Functional requirements for intelligent vehicle technology and systems applications (automation and connectivity) in vehicles;

(b) New safety assessment method;

(c) Cyber Security;

(d) Software updates, including Over-the-Air;

(e) Data Storage System for Automated Driving (DSSAD);

(f) Periodic Technical Inspection Provisions.

3. At its 176th session, WP.29 adopted amendments to its ToR and RoP, reflecting the transformation of GRRF to GRVA as well as all related consequent adaptations.

II. 1958 Agreement

4. Three new United Nations vehicle regulations, aimed at improving vehicle safety and environmental performance entered into force in 2018:

(a) UN Regulation No. 0 on International Whole Vehicle Type Approval was adopted at the November 2017 session of WP.29: established uniform provisions, a system of mutual recognition for whole vehicle type approvals in the framework of the 1958 Agreement;

(b) UN Regulation No. 144 on Accident Emergency Call Systems was adopted at the November 2017 session of WP.29: uniform provisions concerning the approval of emergency call devices and motor vehicles with regard to the installation of these systems;

(c) UN Regulation No. 145 on ISOFIX anchorage systems, ISOFIX top tether anchorages and i-Size seating positions was adopted at the November 2017 session of WP.29: separate ISOFIX and child restraint system anchorage provisions in UN Regulation No. 14 for facilitating the implementation of the International Whole Vehicle Type Approval.

5. WP. 29 adopted two new UN Regulations in 2018. Existing UN Regulations were updated by 100 amendments, which adapt the regulations to the most recent technological innovations and introduce more stringent limits aimed at increasing both the safety and environmental performance of vehicles. The regulations enter into force in January 2019:

(a) UN Regulation No. 146 on hydrogen and fuel cell vehicles of category L was adopted at the June 2018 session of WP.29;

(b) UN Regulation No. 147 on mechanical coupling components of combinations of agricultural vehicles was adopted at the June 2018 session of WP.29 to specifically address mechanical coupling in agricultural vehicle combinations.

6. As extrabudgetary funding for hosting DETA at ECE could not be secured (para.5, Informal document ITC (2018) No. 9), at its 176th session WP.29 reiterated the request for hosting DETA under the regular budget, and thanked Germany for hosting DETA until 2020 as an in-kind contribution (para.6, Informal document ITC (2018) No. 9).

7. At the 176th session of WP.29 in November 2018, the International Motor Vehicle Inspection Committee expressed its readiness to finance the development of the module for Declaration of Conformity without any preconditions. The industry associations: International Organization of Motor Vehicle Manufacturers, the European Association of Automotive Suppliers and the European Tyre and Rim Technical Organization confirmed their intention to finance the module for the Unique Identifier once support for the financing of the hosting of DETA at ECE is given by the Executive Committee (EXCOM).

III. 1997 Agreement

8. Proposal for amendments to the 1997 Agreement introducing certain definitions, the possibility for electronic international inspection certificates and provisions on the conformity of periodic technical inspections, were notified by the Office of Legal Affairs.

9. In 2018, amendments to provisions for periodic technical inspections on environmental related elements (Rule No. 1) and on the roadworthiness (Rule No. 2) entered into force, extending the scope to passenger cars and small vans, introducing three risk categories of defects and assessment criteria for each of the test items as well as further test items for electronic controlled safety systems.

10. Two new UN Rules were adopted by the Administrative Committee of the 1997 Agreement (AC.4) and established as annexed to the 1997 Agreement. UN Rule No.3 sets out uniform provisions for Periodical Technical Inspections of motor vehicles using Compressed Natural Gas (CNG), Liquefied Petroleum Gas (LPG) and/or Liquefied Natural Gas (LNG) in their propulsion system with regard to their roadworthiness. UN Rule No.4 establishes uniform provisions for periodical technical inspections of motor vehicles with electric and hybrid-electric propulsion systems with regard to their roadworthiness.

IV. 1998 Agreement

11. In 2018, WP.29 concluded several years of work on new Global Technical Regulations (UN GTR):

(a) The new UN GTR No. 20 on electric vehicle safety was adopted at the March 2018 session of WP.29, and introduces performance-oriented requirements that address potential safety risks of EVs while in use and after a crash event, including electrical shocks associated with the high voltage circuits of EVs and potential hazards associated with lithium-ion batteries and/or other Rechargeable Electrical Energy Storage Systems (REESS) (in particular, containing flammable electrolyte);

(b) The amendment and adoption of amendments to UN GTR No. 9 (Pedestrian Safety), No. 15 (Worldwide harmonized Light vehicles Test Procedures (WLTP)) and No.

19 (EVAPorative emission test procedure for the Worldwide harmonized Light vehicle Test Procedure (WLTP EVAP)).

12. Two new candidates for harmonization or adoption as UN GTRs were listed in the Compendium of Candidate: No. 14 - European Union Regulations Nos. 2017/1151 and 2017/1154 on Real Driving Emissions (RDE), and No.15 - methodology of Japan on Real Driving Emissions (RDE).

13. In June 2018 the development of a new UN GTR on a harmonized real driving emissions test procedure was initiated. The new UN GTR, that is expected to be adopted by 2020, will centralize expertise and resources for improved emissions measurement and also support significant economies of scale across the automotive sector.

V. Link with the 2030 Agenda for Sustainable Development

14. Accession to United Nations vehicle agreements and adherence to annexed UN Regulations, Rules and GTRs can contribute to progress in achieving targets 3.6, 3.9, 7.3, 9.1, 11.2 and 13.2 of the Sustainable Development Goals.
